REMARKS

Reconsideration of the above-identified patent application in view of the present amendment and comments herein is respectfully requested.

The present Application has been pending for more than six (6) years. The Examiner is reminded that under MPEP § 707.02, the subject application is to be considered "special", and the Examiner's supervisor should also carefully study the application.

Thus far, there has been thirteen (13) Office Actions issued. In the August 11, 2006 Office Action, the Examiner, for the first time, applies U.S. Patent No. 5,261,505 to Holroyd et al. ("the '505 patent") as part of an obviousness rejection under 35 U.S.C. § 103. The Applicant first cited the '505 patent in his original information disclosure statement ("IDS") filed on February 1, 2000. The Examiner failed to apply the '505 patent twelve (12) previous times. On the thirteenth Office Action, the Examiner decides to apply the '505 patent to arrive at what is respectfully suggested to be yet another improper result. It is respectfully suggested that the allowance of the present application has be unduly delayed, unfairly denied, and has resulted in great expense to the Applicant's assignee. Accordingly, for the interest of fairness, it is respectfully requested that careful consideration be given to the remarks that follow and that the application be allowed.

Claims 14-16 stand rejected under 35 U.S.C. §112, second paragraph as being indefinite. As stated in a previous response, it is not understood how the Examiner examined claims 14-16 ten (10) previous times (i.e., ten previous Office Actions) and did not raise a §112 issue with regard to claims 14-16. Now, the

Examiner can not understand the wording of claim 14. Notwithstanding, and in a wish to advance the progress of the present application, claim 14 has been amended to recite a system that comprises a sensor module, an occupant protection device, and a controller. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. §112, second paragraph of claim 14 and claims 15-16 depending therefrom be withdrawn.

Claims 1-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,961,289 to Fayyad et al. ("the '289 patent") in view of the '505 patent. Favorable reconsideration and allowance of claims 1-22 is respectfully requested for at least the following reasons.

In rejecting claims 1-22, it appears that the Examiner is misconstruing the operation of the system disclosed in the '289 patent in an attempt to meet the claimed limitations of the present invention. Specifically, in rejecting the present claims, the Examiner contends that accelerometer 24 disclosed in '289 patent is a front crush zone sensor located at the front of a vehicle (See Office Action, Page 3). This is incorrect. "Frontal" in the '289 patent is referring to a direction of impact, **NOT** a location of the sensor. Nothing in the '289 patent teaches or suggests that "frontal" impact sensor (accelerometer) 24 is a crush zone sensor. Crush zone sensors are located in a crush zone of a vehicle. There is no mention in the '289 patent of the location of frontal impact sensor 24. The term "frontal impact sensor," as disclosed in the '289 patent simply indicates the direction from which the sensor detects an impact, not the location of the sensor. If the "frontal impact sensor 24" were impliedly located in the front of the vehicle, then the frontal air bag 32 would

also have to be in the same area, as opposed to the driver space and one skilled in the art knows that is not the case. The Examiner, further contends that FIG. 1 of the '289 patent illustrates the location of frontal impact sensor 24. This is also incorrect. FIG. 1 of the '289 patent merely illustrates a block diagram of the various components of the supplemental inflatable restraint ("SIR") system. There is no teaching or suggestion that FIG. 1 indicates the relative physical positions of the components of the disclosed SIR system.

Moreover, the Examiner mischaracterizes left and right side impact sensors 20 and 22 as being side crush zone sensors 20 and 22 located at the sides of the vehicle (See Office Action Page 3). The left and right impact sensors 20 and 22 are not crush zone sensors. The sides of a vehicle are simply not crush zones. The words "crush zones" have a well known meaning in the art. The sides of a vehicle are reinforced to resist intrusion into a driver space. Furthermore, there is no mention of the specific location of the left and right side impact sensors 20 and 22. Additionally, as stated above, FIG. 1 of the '289 patent does not indicate the position of the various components of the SIR system.

Further still, the Examiner wrongly contends that the lateral accelerometer 16 is a "safing sensor" for frontal impact sensor 24 (See Office Action, Page 3). This contention makes no sense. Nothing in the '289 patent teaches or even remotely suggests that lateral accelerometer 16 can even detect an impact at the front of the vehicle. On the contrary, frontal impact sensor 24 and lateral accelerometer 16 disclosed in the '289 patent detect impacts in different directions (front direction impacts and side direction impacts, respectively). Accordingly, the Examiner has not

set forth any explanation how this would work and can be only mere speculation on the Examiner's part.

Additionally, regarding claim 1, the '289 patent taken in view of the '505 patent does not make claim 1 obvious. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 984, 180 U.S.P.Q. 580 (C.C.P.A. 1974). In rejecting the claims, the Examiner admits that the '289 patent does **NOT TEACH OR SUGGEST** (1) an acoustic safing sensor operative to sense acoustic waves propagating through a vehicle structure during a vehicle crash event, and (2) provide a safing signal having a characteristic indicative of the sensed crash event, as recited in claim 1. However, in contrast to the contention of the Examiner, the addition of the '505 patent does not make up for the deficiencies of the '289 patent.

The '505 patent discloses a collision detector 32 that includes a transducer 36 that detects stress wave activity in or along a waveguide 34 and converts the stress wave guide activity into electrical signals which are analyzed by processor 40 (See the '505 patent, Col. 3, line 61-Col. 4 line 5). In the '505 patent, the collision detector 32 is not a safing sensor, but rather the ONLY SENSOR that is used to detect a vehicle crash, i.e., it is the discrimination sensor. Therefore, the collision detector 32 does not correspond to the safing sensor recited in claim 1 of the present application. Accordingly, the '289 patent taken in view of the '505 patent does teach or suggest each and every element of claim 1.

Furthermore, a claim is not obvious where a suggested combination of references would require a substantial redesign and reconstruction of the elements

shown in the prior art as well as a change in the basic principle under which the prior art was designed to operate. *In re Ratti*, 270 F.2d 810, 813, 123 U.S.P.Q. 349 (C.C.P.A. 1959). It is respectfully suggested that combining and modifying the teachings of the '289 patent and the '505 patent in the manner suggested by the Examiner would require substantial redesign of the '289 patent that would change basic principles of operation of the system disclosed in the '289 patent.

In the '289 patent, replacing arming circuit 18, which the Examiner contends provides a safing signal (See Office Action, Page 3), with a collision detector 32 disclosed in the '505 patent would not have been obvious to one of ordinary skill in the art. In the '289 patent, arming circuit 18 is controlled by lateral accelerometer 16 (See, FIG. 2 and Col. 2, lines 65-66). As shown in FIG. 2, a rather specific and complex circuit is used by arming circuit 18 to ensure that the signal provided by lateral accelerometer 16 is properly processed. There is no teaching or suggestion that a different kind of sensor could be used in place of the lateral accelerometer 16. Replacing the lateral accelerometer 16 with the sensor 36 disclosed in the '505 patent would require that arming circuit 18 be completely redesigned. Furthermore, replacing the lateral accelerometer 16 with an acoustic sensor would change a basic principle of operation of the system disclosed in the '289 patent, as the supplemental inflatable restraint controller 10 disclosed in the '289 patent is designed to detect acceleration, not acoustics. Accordingly, it would not have been obvious to modify the '289 patent and the '505 patent in the manner suggested by the Examiner.

For the reasons stated above, the '289 patent taken in view of the '505 patent does not make claim 1 obvious, and claim 1 is patentable over the cited art. Accordingly, allowance of claim 1 is respectfully requested.

Claims 2-9 depend from claim 1 and are not obvious for at least the same reasons as claim 1, and for the specific elements recited therein. Accordingly, claims 2-9 are patentable.

Additionally, regarding claim 2, the '289 patent taken in view of the '505 patent does not teach or suggest the system recited in claim 1, wherein the crash sensor is an accelerometer, as recited in claim 2. Since claim 2 depends from claim 1, claim 2 recites a system that employs both, an accelerometer and an acoustic safing sensor. None of the cited art teaches or suggests a system that employs both, an accelerometer and an acoustic safing sensor. Accordingly, the '289 patent taken in view of the '505 patent does not teach or suggest each and every element of claim 2.

Claim 10 is patentable for reasons similar to claim 1. That is, the '289 patent taken in view of the '505 patent does not teach or suggest an acoustic safing sensor operative to sense acoustic waves propagating through a vehicle structure during a vehicle crash event and to provide a safing signal having a characteristic indicative of a sensed crash event, as recited in claim 10. Furthermore, for the reasons stated above with respect to claim 1, combining and modifying the teachings of the '289 patent and the '505 patent in the manner suggested by the Examiner would require a substantial redesign of the system disclosed in the '289 patent. Accordingly, the '289 patent taken in view of the '505 patent does not make claim 10 obvious, and claim 10

is patentable over the cited art. Therefore, claim 10 is allowable and its allowance is respectfully requested.

Claims 11-13 depend from claim 10 and are patentable for at least the same reasons as claim 10, and for the specific elements recited therein. Accordingly, claims 11-13 are patentable over the cited art and their allowance is respectfully requested.

Claim 14 is not made obvious by the '289 patent taken in view of the '505 patent. For the reasons stated above with respect to claim 1, the '289 patent taken in view of the '505 patent does not teach or suggest an acoustic sensor operative to detect acoustic waves propagating through a vehicle structure during a vehicle crash event and to provide a safing signal having a characteristic indicative of a sensed crash event, as recited in claim 14. Moreover, for the reasons stated above with respect to claim 1, combining and modifying the teachings of the '289 patent and the '505 patent in the manner suggested by the Examiner would require a substantial redesign of the system disclosed in the '289 patent, and would change a basic principle of operation for the disclosed system.

Furthermore, in the '289 patent taken in view of the '505 patent does not teach or suggest a sensor module that comprises both an accelerometer and an acoustic sensor, as recited in claim 14. In the '289 patent, if the lateral accelerometer 16 were to be replaced with transducer 36 disclosed in the '505 patent, the purported combination would not teach or suggest a sensor module that included an accelerometer and an acoustic sensor, as recited in claim 14. Therefore, the '289 patent taken in view of the '505 patent does not make claim 14 obvious, and claim 14

is patentable over the cited art. Therefore, it is respectfully requested that claim 14 be allowed.

Claims 15-16 depend from claim 14 and are not obvious for at least the same reasons as claim 14, and for the specific elements recited therein. Accordingly, claims 15-16 are patentable over the cited art and it is respectfully requested that claims 15-16 be allowed.

Claim 17 is patentable reasons similar to claim 1. That is, the '289 patent taken in view of the '505 patent does not teach or suggest sensing acoustic waves that travel through a vehicle structure during the occurrence of a vehicle crash condition and providing a safing signal in response to the sensed acoustic waves during the vehicle crash condition, as recited in claim 17. Moreover, for the reasons stated above with respect to claim 1, combining and modifying the teachings of the '289 patent and the '505 patent would require a substantial redesign of the system disclosed in the '289 patent, and would change a basic principle of operation for the disclosed system. Therefore, the '289 patent taken in view of the '505 patent does not make claim 17 obvious, and claim 17 is patentable. Therefore, it is respectfully requested that claim 17 be allowed.

Claims 18-21 depend from claim 17 and are not obvious for at least the same reasons as claim 17 and for the specific elements recited therein. Accordingly, claims 18-21 are patentable over the cited art and it is respectfully requested that claims 18-21 be allowed.

Furthermore, claim 19 is patentable for reasons similar to claim 2. Accordingly, the '289 patent taken in view of the '505 patent does not teach or

suggest each and every element of claim 19. Therefore, it is respectfully requested that claim 19 be allowed.

Claim 22 is patentable for reasons similar to claim 1. That is, the '289 patent taken in view of the '505 patent does not teach or suggest means for sensing acoustic waves that travel through a vehicle structure in response to an occurrence of a vehicle crash condition and providing a safing signal having a characteristic indicative of a vehicle crash event, as recited in claim 2. Moreover, for the reasons stated above with respect to claim 1, combining and modifying the teachings of the '289 patent and the '505 patent would require a substantial redesign of the system disclosed in the '289 patent, and would change a basic principle of operation for the disclosed system. Therefore, the '289 patent taken in view of the '505 patent does not make claim 22 obvious and it is respectfully requested that claim 22 be allowed.

In view of the foregoing, it is respectfully submitted that the above-identified application is in condition for allowance, and allowance of the above-identified application is respectfully requested.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

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